

Math Emporium Student Scheduler

An Honors Thesis (CS 498)

by

Evan Lacy

Thesis Advisor

Dr. Dolores Zage

Ball State University

Muncie, Indiana

April 2019

Expected Date of Graduation

May 2019

Abstract:

The Math Emporium Student Scheduler, hereafter abbreviated to MESS, is an independent web-based, server hosted work shift scheduling program designed for the Math Emporium, located on the fourth floor of Bracken Library, at Ball State University, Muncie, Indiana. MESS is primarily based upon an internet accessible database which stores the account information, such as login credentials and available schedule times. MESS interfaces with Ball State servers on campus as a hosting service for the program, currently residing within a temporary server within the Computer Science Department waiting for migration to a permanent server within the Math Department and implementation for the Fall 2019 semester. MESS was developed by the Unified Media Associates (UMA), in response to the request from a client, the Math Emporium Coordinator, to enhance the efficiency of the scheduling process for the student assistants of the Math Emporium.

Acknowledgments:

I would like to thank my Capstone group, who comprise the rest of the Unified Media Associates: Anna Hawkins, the woman without whom we would not have such superb documentation and have managed to keep such a honed focus on satisfying as many requirements as possible within our time frame. Austin Bolles, the man of seemingly boundless dedication, for without him we would not have been able to manage our server connections, nor would we have possibly had the same kinds of breakthroughs which allowed us to get the code up and running for this project. Sam Stull, the creator of the algorithm behind MESS and the man who kept us on track with satisfying requirements, who brought food to our late-night meetings, he came in with some last-minute saves that entirely helped keep us motivated on the project.

To my girlfriend, Sierra, for without her endless support and love, I know I would not have had the same kind of mental fortitude to maintain such a strong focus on the project; Sierra, my Queen, you are an inspiration every day and every time I talk to you; I love you. To my dear Meghan, you are that motivation to strive for improvement, you have kept my spirits alive and made sure that I could also turn to you for comfort and words of advice, for humor and a remarkable increase in joviality; for that I am entirely grateful and I would bring you a blue French horn anytime.

To my roommates, Hart and Zach, for helping me unwind whenever I came home late at night and needed someone to talk to about progress on this project, who made me laugh and kept up my motivation to get back at it, I would be completely remiss if I said I could have gotten this far without you both. For my good buddy William, I know you have always made time to say a

prayer for me whenever I was going through something as arduous as this, and for that you have my eternal thanks and friendship, I love you man.

To my best friends Alex and Chris, you both have helped push me, albeit in completely different ways, but nevertheless, you have pushed me to keep at it, to do my best and then some, while also making sure I don't completely burn out from pushing too hard. Both of you are true friends and I cannot (and do not) want to imagine where I would be without you.

To my family: Mom, Dad, Oliva and Alexander, Checkers and Scarlet, all of you helped in your own ways to make sure I had the opportunity to do my best and make this project something I am proud to be a part of. While I do admit the ever-present question about "What will you do after?" is quite annoying, you have also helped me by encouraging me and making sure I focus on what is necessary, instilling in me the stubborn determination that has vastly benefitted me to this point.

I would also like to thank my Honors Thesis Advisor: Dr. Barb Stedman, I have you to thank for allowing me the opportunity to pursue my dream of submitting an Honors thesis and allowing it to be based on such an expansive and grand project. With your guidance, I became more and more sure of how I wanted my Capstone project to be presented and now it is becoming a reality. Sincerely, I applaud you and want to thank you for the help that you have given me.

Thanks to my Capstone Professor: Professor Dolores Zage, you were a great inspiration and motivator behind the completion of this project, in addition to teaching us about different concepts within the framework of a professional development environment, such as testing, user stories, and requirement documentation. Without your efforts, this program would not have the same kind of documentational backbone as it does now.